REMARKS

Applicants' attorney thanks the Examiner for the courtesy of the telephone interviews on 09 October 2004 and 12 October 2004. Pursuant to the agreement reached in the interviews, independent Claims 1, 15 and 24 have been amended to indicate that the non-contact printing process is not a spraying process. This limitation is supported in the paragraph traversing pp. 12-13 of the specification. The specification distinguishes between spraying processes and not-contact printing processes, and refers to them as alternative processes. In this situation, a negative claim limitation indicating that the non-contact printing process is not a spraying process is fully supported by the specification. See M.P.E.P. 2173.05(i) ("If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims"); In Re Wakefield And Foster, 422 F.2d 897, 164 USPQ 636 (CCPA 1970); Ex Parte Williams And Neal, 39 USPQ 125 (CCPA, 1938).

Non-contact printing processes (which are alternatives to and, thus, not spraying processes) are described in U.S. Patent 6,024,438 to Koike et al., U.S. Patent 6,019,457 to Silverbrook, and U.S. Patent 5,875,967 to Ruth III. These patents are incorporated by reference into Applicants' specification and describe, for instance, ink-jet printing processes.

Pursuant to the agreement reached in the interviews, independent Claims 1, 15 and 24 have also been amended to recite a composition range of 20-75% by weight for the superabsorbent polymer. The lower end and the upper end of this range are supported in the table on page 20 of the specification. It was agreed that these amendments distinguish the claims over the combination of references, U.S. Patent 4,892,754 (Itoh et al.) in view of U.S. Patent 5,547,747 (Trokhan et al.) and U.S. Patent 6,103,061 (Anderson et al.).

Independent Claims 1, 15 and 24 have been further amended to indicate that the superabsorbent polymer formed on or in the fibrous web consists essentially of particles which stick to fiber surfaces, have a dry diameter of about 10-1000 microns, and are spaced apart by 50-4000 microns. The amendment is supported in the paragraph traversing pages 22-23 of the specification.

The amendment reflects the fact that Applicants' non-contact printing process results in controlled spacing of the superabsorbent particles formed in situ, such that essentially all of the superabsorbent particles are spaced apart from each other by at least 50 microns. Put another way, there is no localized pooling of superabsorbent as would result from a typical spraying process in which droplets of uncontrolled size and spacing are applied to a fibrous web.

The Examiner rejected Claims 1-8, 11-12 and 14-27 under 35 U.S.C. §103(a) as obvious over Itoh et al. in view of Trokhan et al. and Anderson et al. This rejection is respectfully traversed.

a) The Obviousness Rejection Is Based On An Improper Combination of References

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be a suggestion or motivation to modify a reference or combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Applicants' disclosure. In Re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification In Re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In the present case, the Examiner cites Trokhan et al. as teaching the difficulty of spraying a superabsorbent material to a fiber web in a precise pattern, and as suggesting using a printing method to precisely apply the superabsorbent material (Office Action, p. 7). However, the disclosure of Trokhan et al. requires a capillary structure having specified regions of absorbent precursor composition applied using a contact printing process.

> The capillary substrate has regions of topographically different elevations, taken normal to the plane of the capillary substrate. The capillary substrate is passed through a gap between a transfer roll and an anvil roll in a printing apparatus. The transfer roll has a liquid precursor on its periphery. The liquid precursor is applied only to the topographically elevated regions of the capillary substrate which contact the periphery of the transfer roll. (Abstract).
>
> The predetermined regions of the capillary substrate contact the corresponding regions of the transfer roll, so that liquid precursor is transferred from the corresponding regions of the transfer roll to the predetermined regions . . . (Col. 2, lines 50-54).
>
> The capillary substrate is passed through the gap between the transfer roll and the anvil roll, such that topographically elevated regions are oriented toward the transfer roll while the capillary substrate is in the gap . . . Liquid precursor is applied to the topographically elevated regions of the substrate from the periphery of the transfer roll . . . (Col. 2, lines 56-64).
>
> In an alternative embodiment, the transfer roll may have protuberances . . . The liquid precursor is transferred from the protuberances of the transfer roll to the regions of the capillary substrate contacted by the protuberances (Col. 2, line 65 – Col. 3, line 3).

Thus, the disclosure of Trokhan et al. provides no suggestion or motivation to substitute a non-contact printing process for the contact printing process employed. To the contrary, the primary objective sought to be achieved (namely, the treating of elevated regions of a three-dimensional topography) warrants the use of a contact printing process as the most desirable technology.

Furthermore, Trokhan et al. generally teaches away from the use of application processes (both contact and non-contact) other than the one described (Col. 2, lines 5-25). Thus, a fair reading of Trokhan et al. is that the particular contact process described is essential or very important to making the absorbent structure described. Other processes are considered less suitable or not suitable.

The Examiner cites Anderson et al. as disclosing a non-contact printing process (Office Action, p. 10). However, there is no motivation or suggestion to substitute the non-contact printing process of Anderson et al. for the contact process of Trokhan et al.

First, as explained above, a person of ordinary skill in the art would understand the contact process described in Trokhan et al. to be best suited (if not essential) to achieving the objectives of Trokhan et al. Second, Anderson et al. uses the printing process to apply a binding material, not an absorbent precursor. Third, Anderson et al. does not motivate persons skilled in the art to use a non-contact process instead of a contact process. The reference merely teaches that both types of printing are useful for applying a binder (Col. 13, lines 3-7).

For at least these reasons, Trokhan et al. and Anderson et al. cannot be properly combined.

Additionally, Trokhan et al. cannot be properly combined with Itoh et al. in a manner which suggests the claimed invention. Applicants' claims require use of a non-contact printing process. Itoh et al. does not disclose or suggest a printing process. Itoh et al. discloses using conventional spraying, roll coating, and the like to achieve impregnation of the monomer solution in the substrate (Col. 6, lines 13-59).

Trokhan et al. teaches that conventional spraying, coating and other impregnation techniques as taught by Itoh et al. are unsuitable (Col. 1, line 55 – Col. 2, line 25). Trokhan et al. teaches only one process, a specific contact process, as overcoming the difficulties associated with both contact and non-contact processes of Itoh et al. Thus, a fair reading of Trokhan et al. is that the application processes disclosed in Trokhan et al. and Itoh et al. are different, and not interchangeable. Furthermore, to the extent Trokhan et al. represents an improvement over Itoh et al., it directs persons skilled in the art toward a specific contact process and away from conventional contact and non-contact processes of Itoh et al.

The best example of a non-contact process in Itoh et al. (which is not a printing process) is the spraying process described at various parts of the specification. The Examiner relies on the uniform spraying process as a primary basis for obviousness (Office Action, p. 3). However, Trokhan et al. teaches away from the use of the spraying process. Trokhan et al. states:

> For example, it is difficult to spray the liquid precursor onto the capillary substrate in a precise pattern (Col. 2, lines 6-8).

In other words, Trokhan et al. negates the Examiner's assumption that uniform application by spraying, as taught by Itoh et al., suggests application of a precursor composition in a precise arrangement of spaced apart particles as required by Applicants' claims. At best, the references (Trokhan et al. and Itoh et al.) are in conflict with each other, which weighs against combining them. In Re Young, 927 F.2d 588, 18 USPQ2d 1089 (Fed. Cir. 1991). Printing is different from spraying, and is not an analogous process, or an obvious variation. Trokhan et al. differentiates its specific contact process from all conventional (contact and non-contact) processes taught by Itoh et al. Trokhan et al. would have deterred persons skilled in the art from using the teachings of Itoh et al., and would have directed such persons toward a specific contact process.

b) Even If The References Could Be Combined, They Would Not Render Applicants' Claims Obvious

Even if the references could be combined, the combined teachings would not suggest a non-contact printing process for adding a superabsobent polymer precursor composition to a fibrous web, to yield in situ formation of a superabsorbent polymer "consisting essentially of particles which stick to fiber surfaces, have a dry diameter of about 10-1000 microns, and are spaced apart by 50-4000 microns." These limitations are recited in independent Claims 1, 15 and 24.

In various parts of the Office Action, the Examiner relies on Itoh et al. as disclosing that an aqueous monomer composition is "uniformly applied" to a fibrous web by "spraying". However, the term "uniformly" can have many different meanings. When used in the context of a conventional spraying process, the term "uniformly applied" commonly refers to a uniform application per unit area. For instance, the phrase may refer to uniform grams of aqueous monomer solution per square centimeter of fibrous material surface, or uniform parts by weight of aqueous monomer solution per 100 parts by weight of fibrous material. Itoh et al. does not suggest any other meaning for the phrase. For instance, Itoh et al. does not suggest the formation of superabsorbent particles having controlled size and spacing between the particles.

While a conventional spraying process may result in formation of some discrete superabsorbent particles having spacing between them, there is no significant control over the size or spacing. In addition to discrete particles, a conventional spraying process may also produce localized pools of aqueous monomer solution which react to form very large superabsorbent particles, and/or smaller particles with no spacing between them. The patent to Trokhan et al. teaches this shortcoming of conventional spraying processes.

> For example, it is difficult to spray the liquid precursor onto the substrate in a precise pattern. Printing the osmotic absorbent onto the capillary substrate may result in a pattern having greater definition and precision . . . (Col. 2, lines 6-10).

In summary, the spraying process of Itoh et al. is not identical or similar to Applicants' non-contact printing process, and does not produce identical or similar products. Persons skilled in the art recognize that printing and spraying are very different processes.

Trokhan et al. discloses applying an absorbent precursor composition at spaced apart locations, preferably corresponding to the topographical peaks on a three-dimensional web (Fig. 2). The reference does not disclose the claimed combination of particle size and spacing between absorbent particles. From the drawings, it appears that the spacing is larger than the range permitted by Applicants' claims. Furthermore, Trokhan et al. does not disclose a non-contact printing process. As illustrated in Fig. 3, the process used to produce the pattern shown in Figs. 1 and 2 is a contact process.

Anderson et al. does not disclose using a non-contact printing process to add a superabsorbent polymer precursor composition to a fibrous web. The Examiner refers to Anderson et al. at Col. 1, lines 7-11 and Col. 12, line 66 – Col. 13, line 38.

The passage at Col. 1, lines 7-11 states that Anderson et al. is directed to nonwoven materials for wiping products. This has little bearing on the claim rejection.

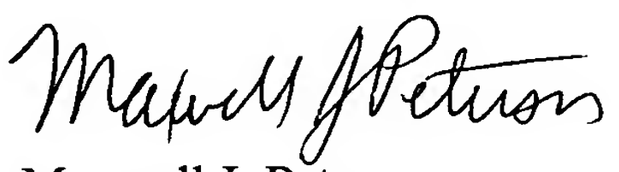
The passage at Col. 12, line 66 – Col. 13, line 38 discloses applying a binder material to a hydraulically entangled composite using a variety of printing techniques. This has nothing to do with application of a superabsorbent polymer precursor composition, as required by Applicants' claims.

Anderson et al. does not disclose application of a superabsorbent polymer precursor composition, and provides no motivation to use a non-contact printing process instead of a contact process. Anderson et al. uses printing processes to apply a binder to a nonwoven material, in order to adhere the material to a creping surface (Col. 3, lines 8-25). This has nothing to do with Applicants' claims. The binder does not react to form particles of superabsorbent material.

c) Conclusion

Applicants believe that the claims, as presented, are in condition for allowance. If the Examiner feels that any issue has not been resolved, then please telephone the undersigned at (847) 4990-1400.

Respectfully submitted,



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